## Remarks

The Office Action mailed July 3, 2003, has been received and reviewed. The pending claims being claims 1-4, 6-9, 11, 13-35, and 37-39, claims 1, 6, 11, 20, 27, 29, 34, 37, 38, and 39 having been amended, and claims 37-39 having been withdrawn from examination, the claims under examination are claims 1-4, 6-9, 11, and 13-35. Reconsideration and withdrawal of the rejections are respectfully requested.

## Examiner Interviews

A telephonic Examiner Interview was held on May 30, 2003, with Examiner Nichols, Supervisory Patent Examiner Kunz, and Applicants' Representatives, Ann Mueting and Nancy Johnson. Linking claim practice and the rejoinder of SEQ ID NO's 1-34 upon the identification of allowable claims were discussed. A second telephonic Examiner Interview was held on July 1, 2003, with Examiner Nichols, Supervisory Patent Examiner Kunz, and Applicants' Representative Nancy Johnson. The rejections of the claims as anticipated by Inglot et al. and Janusz et al. were discussed. Examiner Nichols and Supervisory Patent Examiner Kunz are thanked for the courtesy of these interviews.

## Traverse of the Restriction Requirement

Applicants continue to traverse the Restriction Requirement mailed June 17, 2002, on the grounds that generic (linking) claims 20 and 29 include sufficiently few species that a search and examination of all the species at one time would not impose a serious burden on the Examiner. Applicants request that the requirement be withdrawn upon the finding of an allowable genus. Applicants also request the rejoinder of SEQ ID NO:2-34 and the rejoinder of claims 37-39.

**The 35 U.S.C. §102 Rejection over Inglot et al.**

The Examiner has maintained the rejection of claims 1-3 and 6-9 under 35 U.S.C. § 102 as being anticipated by Inglot et al. Applicants respectfully traverse this rejection. Applicants respectfully submit that Inglot et al. do not teach an immunological regulator, "wherein the immunological regulator consists of MQPPPLP (SEQ ID NO:1)." Thus, claims 1-3 and 6-9 are not anticipated by Inglot et al. and withdrawal of this rejection of the claims under 35 U.S.C. § 102 is respectfully requested.

**The 35 U.S.C. §102 Rejection over Janusz et al.**

The Examiner has maintained the rejection of claims 11 and 13-19 under 35 U.S.C. § 102 as being anticipated by Janusz et al. (WO 98/14473). The Examiner has also maintained the rejection of claims 20-35 under 35 U.S.C. § 102 as being anticipated by Janusz et al. (WO 98/14473). This rejection is respectfully traversed.

Applicants respectfully submit that Janusz et al. do not teach an immunological regulator, "wherein the immunoregulator consists of MQPPPLP (SEQ ID NO:1)." Thus, claims 11 and 13-19 are not anticipated by Janusz et al.

Claims 20-28 are drawn to a "method for modulating leukocyte proliferation . . . comprising contacting leukocytes with a leukocyte regulator selected from the group of colostrinin, a constituent peptide thereof, an active analog thereof, and combinations thereof, *under conditions effective to change the number of leukocytes*" and claims 29-35 are drawn to a "method for modulating leukocyte proliferation in a patient . . . comprising administering to the patient a leukocyte regulator selected from the group of colostrinin, a constituent peptide thereof, an analog thereof, and combinations thereof, *under conditions effective to change the number of leukocytes*." Claims 26 and 33 are further limited to "wherein the leukocyte regulator is a constituent peptide of colostrinin," and claims 27, 28, 34 and 35 are drawn leukocyte regulators selected from specific SEQ ID NO's, and active analogs thereof.

Applicants respectfully submit that Janusz et al. do not teach the claimed methods of modulating leukocyte proliferation, wherein modulating leukocyte proliferation is a change in the number of leukocytes. The Examiner asserted that "[o]nce administered, colostrinin would inherently and necessarily have caused an increase in leukocytes." And, citing Chapter 10 "Cytokines" of Elgert's "Immunology: Understanding the Immune System" textbook (pp. 199-217), the Examiner further asserted that "'growth, maturation, and differentiation' include proliferation or an increase in cell number" (see p. 8 of the Office Action mailed March 5, 2003). Applicants respectfully disagree.

Applicants are unable to locate within the cited pages of Elgert's Immunology textbook any statements that substantiate the Examiner's assertions. Further, the Examiner uses the doctrine of inherency to support these rejections. However, Applicants' Representatives submit that historically the inherency doctrine has been used to reject claims to a product that is alleged to be new when there is a process in the prior art that clearly yields the claimed product. The Examiner is requested to note that all the currently pending claims are directed to methods.

For inherency to apply, the missing descriptive information must necessarily be present in one of the cited documents such that one of skill in the art would recognize such a disclosure. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill'" (In re Robertson, 49 USPQ2d 1949 (Fed. Cir. 1999) quoting Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746 (Fed. Cir. 1991)). See also MPEP 2112.

Applicants submit that there can be no recognition by one of skill in the art from the teachings of Janusz et al. that the modulation of leukocyte proliferation by contacting leukocytes with colostrinin under conditions effective to change the number of leukocytes is necessarily present. Inherency must be a necessary result, not merely a possible result. "'Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" (In re Robertson, 49

USPQ2d 1949 (Fed. Cir. 1999) quoting In re Oelrich, 212 USPQ 323 (Fed. Cir. 1981)). Furthermore, it is inherent only if there is at least a reasonable likelihood that one of skill in the art could have discovered or recognized it without specific guidance. That is, the subject matter relied upon must be disclosed in a manner to place it in possession of the public. (See, e.g., Akzo N.V. v. United States Int'l Trade Comm'n, 1 USPQ2d 1241 (Fed. Cir. 1986)). Clearly, this is not the situation with the documents cited by the Examiner.

Applicants respectfully submit that Janusz et al. do not teach a method of modulating leukocyte proliferation comprising contacting leukocytes with colostrinin under conditions effective to change the number of leukocytes and, thus, claims 20-35 are not anticipated by Janusz et al.

For the reasons discussed above, claims 11 and 13-35 are not anticipated by Janusz et al. Withdrawal of this rejection of the claims under 35 U.S.C. § 102 is respectfully requested.

**Objection to the Claims**

The Examiner objected to claims 1-4, 6-9, and 13-35 as reciting non-elected SEQ ID NO's. This objection is respectfully traversed. First, Applicants submit that claims 1-4, 6-9, 11, and 13-19 recite only SEQ ID NO:1, and thus, do not recite non-elected SEQ ID NO's. Second, in view of the Applicants' request for the rejoinder of SEQ ID NO:2-34, discussed above, Applicants respectfully submit that this objection to the claims is moot. Withdrawal of this objection is respectfully requested.

**The 35 U.S.C. §112, Second Paragraph, Rejection**

The Examiner rejected claims 1-3, 6-9, 11, and 13-35 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Examiner asserted that the metes and bounds of the recitation "structural similarity" are unclear. As previously

presented, Applicants submit that the metes and bounds of the recitation "structural similarity" are clear. However, to expedite prosecution, claims 1, 6, 11, 20, 27, 29, 34, and 37-39 have been amended to recite "sequence identity." Support for this recitation is found on page 11, lines 28-30 and page 12, lines 8-14 of the specification. Withdrawal of this rejection is respectfully requested.

**Double Patenting Rejection**

Claims 1-4, 6-9, 11, and 13-35 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 6,500,798. This rejection is respectfully traversed.

The claims of the instant invention are drawn to methods of inducing a cytokine in a cell, modulating an immune response in a cell, modulating an immune response in a patient, and modulating leukocyte proliferation. Specifically, claims 1-4 are drawn to "[a] method of inducing a cytokine in a cell, the method comprising contacting the cell with an immunological regulator under conditions effective to induce a cytokine;" claims 6-9 are drawn to "[a] method for modulating an immune response in a cell, the method comprising contacting the cell with an immunological regulator under conditions effective to induce a cytokine;" claims 11 and 13-19 are drawn to "[a] method for modulating an immune response in a patient, the method comprising administering to the patient an immunological regulator under conditions effective to induce a cytokine;" claims 20-28 are drawn to "[a] method for modulating leukocyte proliferation, the method comprising contacting leukocytes with a leukocyte regulator . . . under conditions effective to change the number of leukocytes;" and claims 29-35 are drawn to "[a] method for modulating leukocyte proliferation in a patient, the method comprising administering to the patient a leukocyte regulator . . . under conditions effective to change the number of leukocytes."

In contrast, claims 1-22 of U.S. Patent No. 6,500,798 are drawn to methods of modulating the oxidative stress level in a cell, modulating the oxidative stress level in a patient,

and treating oxidative damage to the skin of a patient. Specifically, claims 1-7 are drawn to "[a] method for modulating the oxidative stress level in a cell, the method comprising contacting the cell with an oxidative stress regulator under conditions effective to decrease the level of an oxidizing species present in the cell in response to an oxidative stress compared to the same conditions when the oxidative stress regulator is not present;" claim 8 is drawn to "[a] method for modulating the oxidative stress level in a cell, the method comprising contacting the cell with an oxidative stress regulator under conditions effective to prevent or reduce an increase in the level of an oxidizing species in the cell in response to an oxidative stress compared to the same conditions when the oxidative stress regulator is not present;" claims 9-16 are drawn to "[a] method for modulating the oxidative stress level in a patient, the method comprising administering to the patient an oxidative stress regulator under conditions effective to decrease the level of an oxidizing species present in the patient in response to an oxidative stress compared to the same conditions when the oxidative stress regulator is not present;" claim 17 is drawn to "[a] method for modulating the oxidative stress level in a patient, the method comprising administering to the patient an oxidative stress regulator under conditions effective to prevent or reduce an increase in the level of an oxidating species in the cell in response to an oxidative stress compared to the same conditions when the oxidative stress regulator is not present;" and, claims 18-22 are drawn to "[a] method of treating oxidative damage to the skin of a patient, the method comprising applying to skin a topical formulation comprising an oxidative stress regulator under conditions effective to prevent or reduce an increase in the level of damage to a biomolecule of the patient in response to an oxidative stress compared to the same conditions when the oxidative stress regulator is not present; wherein the biomolecule is selected from the group of a DNA, a protein, a lipid, or combinations thereof."

The Examiner asserted "it has been established by the courts that a product inherently possesses the characteristics of that product." Quoting *Ex parte Gray*, 10 USPQ 2d 1922 (1989) and *In re Best*, 195 USPQ 430 (1976), the Examiner further asserted "the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess

the characteristics of his claimed products." Finally, the Examiner asserted "[m]orover, when the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable, even though the prior art product was made by a different process." See page 4, ¶¶8-9, Office Action, mailed July 3, 2003. Applicants respectfully note that instant claims 1-4, 6-9, 11, and 13-35 are all drawn to methods, not products. Thus, these arguments provided by the Examiner have no relevance to the rejection of the instant method claims.

Further, Applicants acknowledge the Examiner's statement that the instant claims do "not practic[e] the preamble" of claims 1-22 of U.S. Patent No. 6,500,798" (page 4, ¶8, Office Action, mailed July 3, 2003). Applicants respectfully submit that method claims 1-4, 6-9, 11, and 13-35 differ from, and are not obvious in view of, claims 1-22 of U.S. Patent No. 6,500,798." The methods of modulating the oxidative stress level by contact with an oxidative stress regulator under conditions effective to decrease the level of an oxidizing species present in response to an oxidative stress, taught by claims 1-22 of U.S. Patent No. 6,500,798 do not teach or make obvious the claimed methods; methods of inducing a cytokine in a cell by contact with an immunological regulator under conditions effective to induce a cytokine, modulating an immune response by contact with an immunological regulator under conditions effective to induce a cytokine, and modulating leukocyte proliferation by contact with a leukocyte regulator under conditions effective to change the number of leukocytes. The methods of the instant claims differ from claims 1-22 of U.S. Patent No. 6,500,798 in effective goals and effective amounts administered, goals and effective amounts that are not taught by, or obvious over, claims 1-22 of U.S. Patent No. 6,500,798.

Applicants submit that claims 1-4, 6-9, 11, and 13-35 are not unpatentable over claims 1-22 of U.S. Patent No. 6,500,798. Withdrawal of this rejection under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

## Summary

It is respectfully submitted that the pending claims 1-4, 6-9, 11, 13-35, and 37-39 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
**Stanton et al.**

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CERTIFICATE UNDER 37 CFR §1.10:
"Express Mail" mailing label number: EV 073735060 US Date of Deposit: November 3, 2003
The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents,P.O. Box 1450, Alexandria, VA 22313-1450.

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